

IN THE CLAIMS

Please amend the claims to read as follows:

Listing of Claims

1-11. (Canceled).

12. (New) A CDMA transmission apparatus comprising:

a spreading code generator that generates a b^{th} chip $C(a,b)$ of an a^{th} spreading code by a following equation,

$$C(a,b) = e^{j(2n\pi/N)}$$

where e is a base of natural logarithm, N is a length of the spreading code, $n=a \times b$, $a=0 \sim N-1$, and $b=0 \sim N-1$; and

a spreader that spreads a transmission signal using the spreading code generated in the spreading code generator, wherein

an inverse discrete Fourier transformer is applied to the spreading code generator and the spreader.

13. (New) A CDMA transmission apparatus comprising:

a spreading code generator that generates a b^{th} chip $C(a,b)$ of an a^{th} spreading code by a following equation,

$$C(a,b) = e^{j(2n\pi/N)}$$

where e is a base of natural logarithm, N is a length of the spreading code, $n=a \times b$, $a=0 \sim N-1$, and $b=0 \sim N-1$; and

a spreader that spreads a transmission signal using the spreading code generated in the spreading code generator, wherein

a plurality of cascaded inverse discrete Fourier transformers is applied to the spreading code generator and the spreader, and performs inverse discrete Fourier transform on the transmission signal hierarchically.

14. (New) A CDMA reception apparatus comprising:

a spreading code generator that generates a b^{th} chip $C(a,b)$ of an a^{th} spreading code by a following equation,

$$C^*(a,b) = e^{-j(2n\pi/N)}$$

where e is a base of natural logarithm, N is a length of the spreading code, $n=a \times b$, $a=0 \sim N-1$, and $b=0 \sim N-1$; and

a despreader that despreads a received signal using the spreading code generated in the spreading code generator, wherein

a discrete Fourier transformer is applied to constitute the spreading code generator and the despreader.

15. (New) A CDMA reception apparatus comprising:

a spreading code generator that generates a b^{th} chip $C(a,b)$ of an a^{th} spreading code by a following equation,

$$C^*(a,b) = e^{-j(2n\pi/N)}$$

where e is a base of natural logarithm, N is a length of the spreading code, $n=a \times b$, $a=0 \sim N-1$, and $b=0 \sim N-1$; and

a despreader that despreads a received signal using the spreading code generated in the spreading code generator, wherein

a plurality of cascaded discrete Fourier transformers is applied to the spreading code generator and the despreader, and performs discrete Fourier transform on the received signal hierarchically.